03560.002647. (35.G2647) PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	:	Examiner: S. Hu
TOHRU DEN, ET AL	)	
	:	Group Art Unit: 2811
Application No.: 09/666,605	)	
	:	
Filed: September 20, 2000	)	
	:	
For: STRUCTURE HAVING PORES, DEVICE USING THE SAME, AND MANUFACTURING METHODS THEREFOR	)	June 16, 2005

Mail Stop Petitions
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PETITION UNDER 37 C.F.R. § 1.181
TO WITHDRAW ERRONEOUS ABANDONMENT

Sir:

This is a petition under 37 C.F.R. § 1.181 to withdraw a holding of abandonment in the subject application. While it is believed that no fee is necessary for this petition, should a fee be required, the Director is hereby authorized to charge any such fee to Deposit Account No. 06-1205.

Petitioners received a Notice of Abandonment dated May 18, 2004, indicating that the above application became abandoned for failure to file a timely reply to

the Office Action mailed September 24, 2003. A copy of the Notice of Abandonment is attached as Exhibit A.

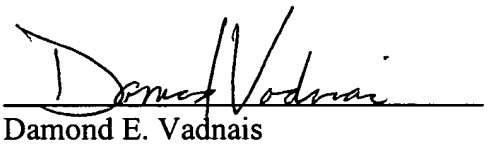
In response to the Notice of Abandonment, Petitioners filed a Request to Withdraw Erroneous Abandonment on June 14, 2004. A copy of the Request is attached as Exhibit B. A copy of a stamped postcard indicating that the Patent Office received this paper on June 14, 2004 is attached as Exhibit C. Accordingly, a response to the Notice of Abandonment was timely filed.

As discussed in the Request, Petitioners filed an Amendment and Petition for a one-month extension of time, a Transmittal, and an Information Disclosure Statement on Monday, January 26, 2004. A copy of each of these papers is attached as Exhibit D. A copy of a postcard receipt indicating that the Patent Office received these papers on January 26, 2004 is attached as Exhibit E. A copy of the obverse and reverse sides of the cancelled check for the $110.00 extension fee is attached as Exhibit F. Accordingly, a reply to the Office Action was timely filed.

In view of the foregoing, it is respectfully submitted that the abandonment of the subject application is erroneous, and that Petitioners responded in a timely manner to the Notice of Abandonment. Therefore, withdrawal of the Notice of Abandonment is respectfully requested.

Petitioners' undersigned attorney may be reached in our Costa Mesa, California office by telephone at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



Damond E. Vadnais
Attorney for Petitioners
Registration No. 52,310

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30 Rockefeller Plaza
New York, New York 10112-3800
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CA_MAIN 97793v1

EXHIBIT A

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/666,605	09/20/2000	TOHRU DEN	35.G2647	5370

5514 7590 05/18/2004

FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER	
HU, SHOUXIANG	
ART UNIT	**PAPER NUMBER**
2811	

DATE MAILED: 05/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

DEN
02160.002647
erronkow
abmu

PTO-90C (Rev. 10/03)

Notice of Abandonment	Application No.	Applicant(s)	
	09/666,605	DEN ET AL.	
	Examiner	Art Unit	
	Shouxiang Hu	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

This application is abandoned in view of:

1. ☒ Applicant's failure to timely file a proper reply to the Office letter mailed on *24 September 2003*.
   (a) ☐ A reply was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply (including a total extension of time of _____ month(s)) which expired on _____.
   (b) ☐ A proposed reply was received on _____, but it does not constitute a proper reply under 37 CFR 1.113 (a) to the final rejection.
   (A proper reply under 37 CFR 1.113 to a final rejection consists only of: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114).
   (c) ☐ A reply was received on _____ but it does not constitute a proper reply, or a bona fide attempt at a proper reply, to the non-final rejection. See 37 CFR 1.85(a) and 1.111. (See explanation in box 7 below).
   (d) ☒ No reply has been received.

2. ☐ Applicant's failure to timely pay the required issue fee and publication fee, if applicable, within the statutory period of three months from the mailing date of the Notice of Allowance (PTOL-85).
   (a) ☐ The issue fee and publication fee, if applicable, was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the statutory period for payment of the issue fee (and publication fee) set in the Notice of Allowance (PTOL-85).
   (b) ☐ The submitted fee of $_____ is insufficient. A balance of $_____ is due.
   The issue fee required by 37 CFR 1.18 is $_____. The publication fee, if required by 37 CFR 1.18(d), is $_____.
   (c) ☐ The issue fee and publication fee, if applicable, has not been received.

3. ☐ Applicant's failure to timely file corrected drawings as required by, and within the three-month period set in, the Notice of Allowability (PTO-37).
   (a) ☐ Proposed corrected drawings were received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply.
   (b) ☐ No corrected drawings have been received.

4. ☐ The letter of express abandonment which is signed by the attorney or agent of record, the assignee of the entire interest, or all of the applicants.

5. ☐ The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34(a)) upon the filing of a continuing application.

6. ☐ The decision by the Board of Patent Appeals and Interference rendered on _____ and because the period for seeking court review of the decision has expired and there are no allowed claims.

7. ☐ The reason(s) below:

Shouxiang Hu

SHOUXIANG HU
PRIMARY EXAMINER

Petitions to revive under 37 CFR 1.137(a) or (b), or requests to withdraw the holding of abandonment under 37 CFR 1.181, should be promptly filed to minimize any negative effects on patent term.

NOTICE OF OFFICE PLAN TO CEASE SUPPLYING COPIES OF CITED U.S. PATENT REFERENCES WITH OFFICE ACTIONS, AND PILOT TO EVALUATE THE ALTERNATIVE OF PROVIDING ELECTRONIC ACCESS TO SUCH U.S. PATENT REFERENCES

Summary

The United States Patent and Trademark Office (Office or USPTO) plans in the near future to: (1) cease mailing copies of U.S. patents and U.S. patent application publications (US patent references) with Office actions except for citations made during the international stage of an international application under the Patent Cooperation Treaty and those made during reexamination proceedings; and (2) provide electronic access to, with convenient downloading capability of, the US patent references cited in an Office action via the Office's private Patent Application Information Retrieval (PAIR) system which has a new feature called "E-Patent Reference." Before ceasing to provide copies of U.S. patent references with Office actions, the Office shall test the feasibility of the E-Patent Reference feature by conducting a two-month pilot project starting with Office actions mailed after December 1, 2003. The Office shall evaluate the pilot project and publish the results in a notice which will be posted on the Office's web site (www.USPTO.gov) and in the Patent Official Gazette (O.G.). In order to use the new E-Patent Reference feature during the pilot period, or when the Office ceases to send copies of U.S. patent references with Office actions, the applicant must: (1) obtain a digital certificate from the Office; (2) obtain a customer number from the Office, and (3) properly associate applications with the customer number. The pilot project does not involve or affect the current Office practice of supplying paper copies of foreign patent documents and non-patent literature with Office actions. Paper copies of references will continue to be provided by the USPTO for searches and written opinions prepared by the USPTO for international applications during the international stage and for reexamination proceedings.

Description of Pilot Project to Provide Electronic Access to Cited U.S. Patent References

On December 1, 2003, the Office will make available a new feature, E-Patent Reference, in the Office's private PAIR system, to allow more convenient downloading of U.S. patents and U.S. patent application publications. The new feature will allow an authorized user of private PAIR to download some or all of the U.S. patents and U.S. patent application publications cited by an examiner on form PTO-892 in Office actions, as well as U.S. patents and U.S. patent application publications submitted by applicants on form PTO/SB08 (1449) as part of an IDS. The retrieval of some or all of the documents may be performed in one downloading step with the documents encoded as Adobe Portable Document format (.pdf) files, which is an improvement over the current page-by-page retrieval capability from other USPTO systems.

references. The Office plans to continue to provide access to the E-Patent Reference feature during its evaluation of the pilot.

Comments

Comments concerning the E-Patent Reference feature should be in writing and directed to the Electronic Business Center (EBC) at the USPTO by electronic mail at eReference@uspto.gov or by facsimile to (703) 308-2840. Comments will be posted and made available for public inspection. To ensure that comments are considered in the evaluation of the pilot project, comments should be submitted in writing by January 15, 2004.

Comments with respect to specific applications should be sent to the Technology Centers' customer service centers. Comments concerning digital certificates, customer numbers, and associating customer numbers with applications should be sent to the Electronic Business Center (EBC) at the USPTO by facsimile at (703) 308-2840 or by e-mail at EBC@uspto.gov.

Implementation after Pilot

After the pilot, its evaluation, and publication of a subsequent notice as indicated above, the Office expects to implement its plan to cease mailing paper copies of U.S. patent references cited during examination of non provisional applications on or after February 2, 2004, although copies of cited foreign patent documents, as well as non-patent literature, will still be mailed to the applicant until such time as substantially all applications have been scanned into IFW.

For Further Information Contact

Technical information on the operation of the IFW system can be found on the USPTO website at http://www.uspto.gov/web/patents/ifw/index.html. Comments concerning the E-Patent Reference feature and questions concerning the operation of the PAIR system should be directed to the EBC at the USPTO at (866) 217-9197. The EBC may also be contacted by facsimile at (703) 308-2840 or by e-mail at EBC@uspto.gov.

Date: 12/1/03

Nicholas P. Godici

Nicholas P. Godici
Commissioner for Patents

USPTO TO PROVIDE ELECTRONIC ACCESS TO CITED U.S. PATENT REFERENCES WITH OFFICE ACTIONS AND CEASE SUPPLYING PAPER COPIES

In support of its 21st Century Strategic Plan goal of increased patent e-Government, beginning in June 2004, the United States Patent and Trademark Office (Office or USPTO) will begin the phase-in of its E-Patent Reference program and hence will: (1) **provide downloading capability of the U.S. patents and U.S. patent application publications cited in Office actions** via the E-Patent Reference feature of the Office's Patent Application Information Retrieval (PAIR) system; and (2) **cease mailing paper copies of U.S. patents and U.S. patent application publications with Office actions** (in applications and during reexamination proceedings) except for citations made during the international stage of an international application under the Patent Cooperation Treaty (PCT). In order to use the new E-Patent Reference feature applicants must: (1) obtain a digital certificate and software from the Office; (2) obtain a customer number from the Office; and (3) properly associate patent applications with the customer number. Alternatively, copies of all U.S. patents and patent application publications can be accessed without a digital certificate from the USPTO web site, from the USPTO Office of Public Records, and from commercial sources. The Office will continue the practice of supplying paper copies of foreign patent documents and non-patent literature with Office actions. Paper copies of cited references will continue to be provided by the USPTO for international applications during the international stage.

Schedule

June 2004	TCs 1600, 1700, 2800 and 2900
July 2004	TCs 3600 and 3700
August 2004	TCs 2100 and 2600

All U.S. patents and U.S. patent application publications are available on the USPTO web site. However, a simple system for downloading the cited U.S. patents and patent application publications has been established for applicants, called the E-Patent Reference system. As E-Patent Reference and Private PAIR require participating applicants to have a customer number, retrieval software and a digital certificate, all applicants are strongly encouraged to contact the Patent Electronic Business Center to acquire these items. To be ready to use this system by June 1, 2004, contact the Patent EBC as soon as possible by phone at 866-217-9197 (toll-free), 703-305-3028 or 703-308-6845 or electronically via the Internet at ebc@uspto.gov.

Other Options

The E-Patent Reference function requires the applicant to use the secure Private PAIR system, which establishes confidential communications with the applicant. Applicants using this facility must receive a digital certificate, as described above. Other options for obtaining patents which do not require the digital certificate include the USPTO's free Patents on the Web program (http://www.uspto.gov/patft/index.html). The USPTO's Office of Public Records also supplies copies of patents for a fee (http://ebiz1.uspto.gov/oems25p/index.html). Commercial sources also provide U.S. patents and patent application publications.

For complete instructions see the Official Gazette Notice, USPTO TO PROVIDE ELECTRONIC ACCESS TO CITED U.S. PATENT REFERENCES WITH OFFICE ACTIONS AND CEASE SUPPLYING PAPER COPIES, on the USPTO web site.

EXHIBIT B

03560.002647 (35.G2647) PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	:	Examiner: S. Hu
Tohru DEN, et al.	)	
	:	Group Art Unit: 2811
Application No.: 09/666,605	)	
	:	
Filed: September 20, 2000	)	
	:	
For: STRUCTURE HAVING PORES, DEVICE USING THE SAME, AND MANUFACTURING METHODS THEREFOR	)	
	:	June 14, 2004

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR WITHDRAWAL OF ERRONEOUS ABANDONMENT

Sir:

Applicants have received a Notice of Abandonment indicating that the above application became abandoned for failure to respond to the Office Action dated September 24, 2003. A copy of the Notice of Abandonment is attached as Exhibit A.

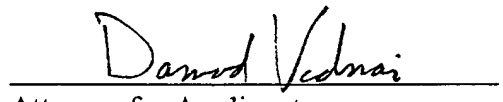
In fact, Applicants filed an Amendment and Petition for a one-month extension of time on Monday, January 26, 2004, together with a Transmittal and an Information Disclosure Statement. A copy of each of these papers is attached as Exhibit B. A copy of the obverse and reverse sides of the cancelled check for the $110.00 extension fee is attached as Exhibit C. A copy of a stamped postcard receipt acknowledging the United Stated Patent and Trademark Office's receipt of the Amendment and Petition for Extension

of Time, and extension fee on January 26, 2004 is attached as Exhibit D.

In view of the foregoing, it is respectfully submitted that a response to the September 24, 2003 Office Action was timely filed on January 26, 2004, and it is respectfully requested that the Notice of Abandonment be withdrawn as erroneous.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



Attorney for Applicants
Damond E. Vadnais
Registration No. 52,310

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3800
Facsimile: (212) 218-2200
DEV/vc

DC_MAIN 167787v1

EXHIBIT C

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Date 6 / 14 / 04
Mo. Day Yr.

Atty. Docket 035160.00264
(35.5246?)
Application No. 09/666,605

Sir:

Kindly acknowledge receipt of the accompanying:

- ☐ Response to Official Action. _____
- ☐ Check for $ _____ (claims fee)
- ☐ Petition under 37 CFR 1.136 and Check for $ _____
- ☐ Notice of Appeal and Check for $ _____
- ☐ Information Disclosure Statement, PTO-1449 and _____ documents
- ☐ Claim for priority and certified copies of _____ priority applications
- ☐ Issue fee transmittal and Check for $ _____
- ☒ Other (specify) Request for Withdrawal of Erroneous Abandonment, Copies of Notice of Abandonment, Amendment + Petition for Ext. of Time, Transmittal, IDS, Cancelled Check, Postcard receipt

by placing your receiving date stamp hereon and returning to deliverer.

Atty. DEV/VC Due Date N / D / D
Mo. Day Yr.

FCHS–D–00

OIPE JC20
JUN 14 2004
PATENT & TRADEMARK OFFICE

EXHIBIT D

In re Application of:

Tohru DEN, et al

Application No.: 09/666,605

Filed: September 20, 2000

For: STRUCTURE HAVING PORES, DEVICE USING THE SAME, AND MANUFACTURING METHODS THEREFOR

Docket No. 03560.002647 (35.G2647)

Examiner: S. Hu

Group Art Unit: 2811

Date: January 26, 2004 (Monday)

COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted herewith is an Amendment in the above-identified application.

☐ No additional fee is required.

The fee has been calculated as shown below

CLAIMS AS AMENDED						
	(2) CLAIMS REMAINING AFTER AMENDMENT		(4) HIGHEST NO. PREVIOUSLY PAID FOR	(5) PRESENT EXTRA	RATE	ADDITIONAL FEE
TOTAL CLAIMS	46	MINUS	60	= 0	x $9 $18	$ 0.00
INDEP. CLAIMS	6	MINUS	4	= 2	x $43 $86	$ 172.00
Fee for Multiple Dependent claims $145°/$290						
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT---						$ 0.00

☐ Verified Statement claiming small entity status is enclosed, if not filed previously.

☒ A check in the amount of $ 172.00 is enclosed.

☐ Charge $_____ to Deposit Account No. 06-1205. A duplicate copy of this sheet is enclosed.

☒ Any prior general authorization to charge an issue fee under 37 C.F.R. 1.18 to Deposit Account No. 06-1205 is hereby revoked. The Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. 1.16 and 1.17 which may be required during the entire pendency of this application, or to credit any overpayment, to Deposit Account No. 06-1205. A duplicate copy of this paper is enclosed.

☒ A check in the amount of $ 110.00 to cover the fee for a one month extension is enclosed.

☒ A check in the amount of $ 180.00 to cover the Information Disclosure Statement fee is enclosed.

☒ Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

Damond Vadnais

Attorney for Applicants
Damond E. Vadnais
Registration No. 52,310

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3800
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DEV/vc

Form #120

DC_MAIN 154690v1

03560.002647 (35.G2647) PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	:	Examiner: S. Hu
Tohru DEN, et al.	)	
	:	Group Art Unit: 2811
Application No.: 09/666,605	)	
	:	
Filed: September 20, 2000	)	
	:	
For: STRUCTURE HAVING PORES, DEVICE USING THE SAME, AND MANUFACTURING METHODS THEREFOR	)	
	:	January 26, 2004 (Monday)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT AND PETITION FOR EXTENSION OF TIME

Sir:

Applicants petition to extend the time for response to the Office Action dated September 24, 2003 by one month, from December 24, 2003, to Monday, January 26, 2004. A check in the amount of $110.00 for payment of the extension fee is enclosed.

In response to the Office Action dated September 24, 2003, please amend the above-identified application, as follows:

IN THE CLAIMS:

Please amend Claims 1 to 4, 8 to 15 and 19 to 45, and add new Claims 47 and 48 as shown below. The claims, as pending in the subject application, read as follows:

1. (Currently Amended) A structure ~~having pores~~ comprising:

a substrate;

a plurality of electroconductive layers formed on a surface of the substrate;

a layer containing aluminum oxide covering the plurality of electroconductive layers and ~~the~~ a surface of the substrate where no electroconductive layer is formed; and

a plurality of pores formed in the layer containing aluminum ~~oxide;~~ oxide,

wherein the plurality of pores is disposed above the plurality of electroconductive layers and the surface of the substrate where no electroconductive layer is formed, with a part of the layer containing aluminum oxide provided under the plurality of ~~pores;~~ pores,

wherein the layer containing aluminum oxide provided between the bottom of the pores disposed above the electroconductive layer and the electroconductive layer comprises a material forming the electroconductive ~~layer;~~ layer, and

wherein a material different from aluminum oxide is filled in at least one pore disposed above the electroconductive layer, and another material different from aluminum oxide is filled in at least one pore disposed above the surface of the substrate where no electroconductive layer is formed.

2. (Currently Amended) A structure ~~having pores~~ according to claim 1, wherein the electroconductive layer comprises at least one element selected from the group consisting of Ti, Zr, Hf, Nb, Ta, Mo, and W.

3. (Currently Amended) A structure ~~having pores~~ according to ~~either one of claims 1 and 2~~ claim 1, wherein the substrate comprises an insulating material.

4. (Currently Amended) A structure ~~having pores~~ according to ~~either one of claims 1 and 2~~ claim 1, wherein the substrate comprises an electroconductive substrate and a film composed of an insulating material provided on a surface of the electroconductive substrate.

5 to 7. (Cancelled)

8. (Currently Amended) A structure ~~having pores~~ according to claim 1, wherein the material filled in at least one pore disposed above the electroconductive layer is in electrical contact with the electroconductive layer.

9. (Currently Amended) A structure ~~having pores~~ according to ~~either one of claims 1 and 8~~ claim 1, wherein the material filled in at least one pore disposed above the electroconductive layer is an electroconductive material.

10. (Currently Amended) A structure ~~having pores~~ according to claim 1, wherein the material filled in at least one pore disposed above the electroconductive layer is a magnetic material.

11. (Withdrawn, Currently Amended) A structure ~~having pores~~ according to claim 1, wherein the material filled in at least one pore disposed above the electroconductive layer has a light-emitting function.

12. (Currently Amended) A structure ~~having pores~~ comprising:

a substrate;

an electroconductive layer formed on a surface of the substrate, wherein the electroconductive layer is patterned;

a layer containing aluminum oxide covering the electroconductive layer and a surface of the substrate where no electroconductive layer is formed; and

a plurality of pores formed in the layer containing aluminum oxide,

wherein the plurality of pores is disposed above the electroconductive layer and the surface of the substrate where no electroconductive layer is formed,

wherein an electroconductive path is provided between the electroconductive layer and the bottom of the pores disposed above the electroconductive layer,

wherein a part of the layer containing aluminum oxide is provided under the plurality of pores,

wherein the layer containing aluminum oxide provided between the electroconductive layer and the bottom of the pores disposed above the electroconductive layer comprises a material forming the electroconductive layer, and

wherein a material different from aluminum oxide is filled in at least one pore disposed above the electroconductive layer, and another material different from aluminum oxide is filled in at least one pore disposed above the surface of the substrate where no electroconductive layer is formed.

13. (Currently Amended) A structure ~~having pores~~ according to claim 12, wherein the electroconductive layer comprises at least one element selected from the group consisting of Ti, Zr, Hf, Nb, Ta, Mo, and W.

14. (Currently Amended) A structure having pores according to ~~either one of claims 12 and 13~~ claim 12, wherein the substrate comprises an insulating material.

15. (Currently Amended) A structure ~~having pores~~ according to ~~either one of claims 12 and 13~~ claim 12, wherein the substrate comprises an electroconductive substrate and a film composed of an insulating material provided on a surface of the electroconductive substrate.

16 to 18. (Cancelled)

19. (Currently Amended) A structure ~~having pores~~ according to ~~any one of~~ claim 12, wherein the material filled in at least one pore disposed above the electroconductive layer is in electrical contact with the electroconductive layer.

20. (Currently Amended) A structure ~~having pores~~ according to claim 12, wherein the material filled in at least one pore disposed above the electroconductive layer is an electroconductive material.

21. (Currently Amended) A structure ~~having pores~~ according to claim 12, wherein the material filled in at least one pore disposed above the electroconductive layer is a magnetic material.

22. (Withdrawn, Currently Amended) A structure ~~having pores~~ according to claim 12, wherein the material filled in at least one pore disposed above the electroconductive layer has a light-emitting function.

23. (Withdrawn,Currently Amended) An electron-emitting device comprising a structure ~~having pores~~ according to claim 12, wherein the material filled in at least one pore disposed above the electroconductive layer is an electron-emitting material.

24. (Currently Amended) A magnetic device comprising a ~~a structure having pores~~ structure according to claim 12, wherein the material filled in at least one pore disposed above the electroconductive layer is a magnetic material.

25. (Withdrawn, Currently Amended) A light-emitting device comprising a structure ~~having pores~~ according to claim 12, wherein the material filled in at least one pore disposed above the electroconductive layer is a light-emitting material.

26. (Withdrawn, Currently Amended) A method for manufacturing a structure ~~having pores~~ comprising the steps of:

preparing a substrate;

forming a plurality of electroconductive layers each composed of at least one element selected from the group consisting of Ti, Zr, Hf, Nb, Ta, Mo, and W on a part of a surface of the substrate;

forming a film containing aluminum so as to cover the plurality of electroconductive layers and a surface of the substrate having no electroconductive layer thereon;

anodizing the film containing aluminum so as to form a layer containing aluminum oxide having a plurality of pores; and

filling a material different from aluminum oxide in at least one pore disposed above the electroconductive layer, and filling another material different from aluminum oxide above the surface of the substrate having no electroconductive layer thereon,

wherein the plurality of pores is formed above the electroconductive layer and the surface of the substrate having no electroconductive layer thereon,

wherein a part of the layer containing aluminum oxide is provided under the plurality of pores, and

wherein a material forming the electroconductive layer is diffused to a part of the layer containing aluminum oxide provided between the electroconductive layer and the bottom of the pores above the electroconductive layer.

27. (Withdrawn, Currently Amended) A method for manufacturing a structure ~~having pores~~ according to claim 26, wherein the substrate comprises an insulating material.

28. (Withdrawn, Currently Amended) A method for manufacturing a structure ~~having pores~~ according to claim 26, wherein the substrate comprises an electroconductive substrate and a film composed of an insulating material provided on the electroconductive substrate.

29. (Withdrawn, Currently Amended) A method for manufacturing a structure ~~having pores~~ according to claim 26, wherein the electroconductive layer is an electroconductive film formed on the surface of the substrate, and the film containing aluminum is formed so that the thickness thereof is not less than two times the thickness of the electroconductive layer.

30. (Withdrawn, Currently Amended) A method for manufacturing a structure ~~having pores~~ according to claim 26, wherein the electroconductive layer is an electroconductive film formed on the surface of the substrate, and the film containing aluminum is formed so that the thickness thereof is not less than five times the thickness of the electroconductive layer.

31. (Withdrawn,Currently Amended) A method for manufacturing a structure ~~having pores~~ according to claim 26, wherein the electroconductive layer is an electroconductive film formed on the surface of the substrate, and the film containing aluminum is formed so that the thickness thereof is not less than ten times the thickness of the electroconductive layer.

32. (Withdrawn, Currently Amended) A method for manufacturing a structure ~~having pores~~ according to claim 26, further comprising a step of increasing the diameter of the pores by etching after the anodizing step.

33. (Withdrawn, Currently Amended) A method for manufacturing a structure ~~having pores~~ according to claim 26, further comprising a step, prior to the anodizing step, of forming a recess on a surface of the film containing aluminum disposed so as to cover the plurality of electroconductive layers and the surface of the substrate having no electroconductive layer thereon.

34. (Withdrawn,Currently Amended) A method for manufacturing a structure ~~having pores~~ according to claim 26, wherein the material filled in at least one pore disposed above the electroconductive layer is deposited selectively by applying a voltage thereto in a

solution, and wherein the material filled in at least one pore disposed above the electroconductive layer is ionized in the solution.

35. (Withdrawn, Currently Amended) A method for manufacturing a structure ~~having pores~~ according to claim 34, wherein the voltage applied to the electroconductive layer is an alternating voltage or a pulse voltage.

36. (Withdrawn, Currently Amended) A method for manufacturing a structure ~~having pores~~ comprising the steps of:

preparing a substrate;

forming a patterned electroconductive layer composed of at least one element selected from the group consisting of Ti, Zr, Hf, Nb, Ta, Mo, and W on a part of a surface of the substrate;

forming a film containing aluminum so as to cover the electroconductive layer and a surface of the substrate having no electroconductive layer thereon;

anodizing the film containing aluminum so as to form a layer containing aluminum oxide having a plurality of pores; and

filling a material different from aluminum oxide in at least one pore disposed above the electroconductive layer, and filling another material different from aluminum oxide above the surface of the substrate having no electroconductive layer thereon,

wherein the plurality of pores is formed above the electroconductive layer and the surface of the substrate having no electroconductive layer thereon,

wherein a part of the layer containing aluminum oxide is provided under the plurality of pores, and

wherein a material forming the electroconductive layer is diffused to a part of the layer containing aluminum oxide provided between the electroconductive layer and the bottom of the pores above the electroconductive layer.

37. (Withdrawn, Currently Amended) A method for manufacturing a structure ~~having pores~~ according to claim 36, wherein the substrate comprises an insulating material.

38. (Withdrawn, Currently Amended) A method for manufacturing a structure ~~having pores~~ according to claim 36, wherein the substrate comprises an electroconductive substrate and a film composed of an insulating material provided on the electroconductive substrate.

39. (Withdrawn, Currently Amended) A method for manufacturing a structure ~~having pores~~ according to claim 36, wherein the electroconductive layer is an electroconductive film formed on the surface of the substrate, and the film containing aluminum is formed so that the thickness thereof is not less than two times the thickness of the electroconductive layer.

40. (Withdrawn, Currently Amended) A method for manufacturing a structure ~~having pores~~ according to claim 36, wherein the electroconductive layer is an electroconductive film formed on the surface of the substrate, and the film containing aluminum is formed so that the thickness thereof is not less than five times the thickness of the electroconductive layer.

41. (Withdrawn, Currently Amended) A method for manufacturing a structure ~~having pores~~ according to claim 36, wherein the electroconductive layer is an electroconductive film formed on the surface of the substrate, and the film containing aluminum is formed so that the thickness thereof is not less than ten times the thickness of the electroconductive layer.

42. (Withdrawn, Currently Amended) A method for manufacturing a structure ~~having pores~~ according to claim 36, further comprising a step of increasing the diameter of the pores by etching after the anodizing step.

43. (Withdrawn, Currently Amended) A method for manufacturing a structure ~~having pores~~ according to claim 36, further comprising a step, prior to the anodizing step, of forming a recess on a surface of the film containing aluminum disposed so as to cover the electroconductive layer and the surface of the substrate having no electroconductive layer thereon.

44. (Withdrawn, Currently Amended) A method for manufacturing a structure ~~having pores~~ according to claim 36, wherein the material filled in at least one pore disposed above the electroconductive layer is deposited selectively by applying a voltage thereto in a solution, and wherein the material filled in at least one pore disposed above the electroconductive layer is ionized in the solution.

45. (Withdrawn, Currently Amended) A method for manufacturing a structure ~~having pores~~ according to claim 44, wherein the voltage applied to the electroconductive layer is an alternating voltage or a pulse voltage.

46. (Cancelled).

47. (New) A structure comprising:

a substrate;

a plurality of electroconductive layers formed partially on a surface of the substrate; and

a layer having a plurality of columnar parts formed on a surface of the substrate where no electroconductive layer is formed and on the plurality of electroconductive layers,

wherein at least one columnar part is disposed above one of the plurality of electroconductive layers, and at least one columnar part is disposed above the surface of the substrate where no electroconductive layer is formed, and

wherein the columnar part disposed above the electroconductive layer comprises a material different from a material comprised by the columnar part disposed above the surface of the substrate where no electroconductive layer is formed.

48. (New) A structure comprising:

a substrate;

a plurality of electroconductive layers formed partially on a surface of the substrate; and

a layer having a plurality of columnar parts formed on a surface of the substrate where no electroconductive layer is formed and on the plurality of electroconductive layers,

wherein at least one columnar part is disposed above one electroconductive layer, and at least one columnar part is disposed above another electroconductive layer, and

wherein the columnar part disposed above the one electroconductive layer comprises a material different from a material comprised by the columnar part disposed above the other electroconductive layer.

REMARKS

This application has been carefully reviewed in light of the Office Action dated September 24, 2003. Claims 1 to 4, 8 to 15, 19 to 45, 47 and 48 are in the application, of which Claims 1, 12, 26, 36, 47 and 48 are the independent claims. Claims 26 to 45 were withdrawn from consideration pursuant to a restriction requirement; and Claims 11, 22, 23 and 25 were withdrawn from consideration pursuant an election of species requirement. Claims 1 to 4, 8 to 15 and 19 to 45 have been amended herein; and Claims 47 and 48 have been newly-added. Reconsideration and further examination are respectfully requested.

Claims 1 to 4, 8 to 10, 12 to 15, 19 to 21 and 24 were rejected under 35 U.S.C. § 103(a) over Japan 11-200090 (Japan '090) in view of U.S. Patent No. 6,172,902 (Wegrowe). Reconsideration and withdrawal of the rejection is respectfully requested.

The present invention as recited by Claim 1 concerns a structure which includes a substrate; a plurality of electroconductive layers formed on a surface of the substrate; a layer containing aluminum oxide covering the plurality of electroconductive layers and a surface of the substrate where no electroconductive layer is formed; and a plurality of pores formed in the layer containing aluminum oxide. The plurality of pores is disposed above the plurality of electroconductive layers and the surface of the substrate where no electroconductive layer is formed, with a part of the layer containing aluminum oxide provided under the plurality of pores. The layer containing aluminum oxide provided between the bottom of the pores disposed above the electroconductive layer and the electroconductive layer includes a material forming the electroconductive layer. A material different from aluminum oxide is filled in at least one pore disposed above the electroconductive layer, and another material different from aluminum oxide is filled in at least one pore disposed above the surface of the substrate where no electroconductive layer is formed.

The present invention as recited by Claim 12 concerns a structure which includes a substrate; a electroconductive layer formed on a surface of the substrate, with the electroconductive layer being patterned; a layer containing aluminum oxide covering the electroconductive layer and a surface of the substrate where no electroconductive layer is formed;

and a plurality of pores formed in the layer containing aluminum oxide. The plurality of pores is disposed above the electroconductive layer and the surface of the substrate where no electroconductive layer is formed. An electroconductive path is provided between the electroconductive layer and the bottom of the pores disposed above the electroconductive layer. A part of the layer containing aluminum oxide is provided under the plurality of pores. The layer containing aluminum oxide provided between the electroconductive layer and the bottom of the pores disposed above the electroconductive layer includes a material forming the electroconductive layer. A material different from aluminum oxide is filled in at least one pore disposed above the electroconductive layer, and another material different from aluminum oxide is filled in at least one pore disposed above the surface of the substrate where no electroconductive layer is formed.

The present invention as recited by Claim 47 concerns a structure which includes a substrate; a plurality of electroconductive layers formed partially on a surface of the substrate; and a layer having a plurality of columnar parts formed on a surface of the substrate where no electroconductive layer is formed and on the plurality of electroconductive layers. At least one columnar part is disposed above one of the plurality of electroconductive layers, and at least one columnar part is disposed above the surface of the substrate where no electroconductive layer is formed. The columnar part disposed above the electroconductive layer includes a material different from that of the columnar part disposed above the surface of the substrate where no electroconductive layer is formed.

Thus, according to a feature of the invention as recited by Claims 1, 12 and 47, (i) a material different from aluminum oxide is filled in at least one pore disposed above the electroconductive layer, and another material different from aluminum oxide is filled in at least one pore disposed above the surface of the substrate where no electroconductive layer is formed (Claims 1 and 12); or (ii) a columnar part disposed above the electroconductive layer includes a material different from that of a columnar part disposed above the surface of the substrate where no electroconductive layer is formed (Claim 47).

Japan '090 and Wegrowe, either singly or in combination, are not seen to teach or suggest the foregoing feature. The Office Action concedes that Japan '090 does not disclose a plurality of electroconductive layers or a patterned electroconductive layer; and Wegrowe merely describes filling his pores with a single ferromagnetic material. See Examples 1 to 3 of Wegrowe.

The Office Actions dated September 13, 2002, and March 11, 2003, took the position that the subject matter of filling one material in pore(s) above a conductive layer and filling a different material in pore(s) above a non-conductive region is not enabled.

In this regard, Applicants respectfully submit that one of ordinary skill in the art could readily make and use the claimed invention from the disclosures in the specification coupled with information known in the art without undue experimentation, and that there has been no showing of any evidence or reason to the contrary. See MPEP § 2164.

Various pore-filling materials that might be used to fill the pores above the non-conductive region were known in the art. For example, U.S. Patent No. 5,165,991 (Fukuda), describes filling pores with low dielectric substances. See col. 5, line 58 to col. 6, line 6 of Fukada. This U.S. patent is cited in the accompanying Information Disclosure Statement.

The present invention as recited by Claim 48 concerns a structure which includes a substrate; a plurality of electroconductive layers formed partially on a surface of the substrate; and a layer having a plurality of columnar parts formed on a surface of the substrate where no electroconductive layer is formed and on the plurality of electroconductive layers. At least one columnar part is disposed above one electroconductive layer, and at least one columnar part is disposed above another electroconductive layer. The columnar part disposed above the one electroconductive layer includes a material different from that of the columnar part disposed above the other electroconductive layer.

Japan '090 and Wegrowe, either singly or in combination, are not seen to teach or suggest the feature of a columnar part disposed above one electroconductive layer and a columnar part disposed above another electroconductive layer, where the columnar part disposed

above the one electroconductive layer includes a material different from that of the columnar part disposed above the other electroconductive layer.

In light of the above, Applicants conclude that the applied documents do not teach or suggest the claimed invention, and it is respectfully requested that the Section 103 rejection be withdrawn.

With regard to the election of species requirement, at least Claims 1 and 12 are believed to be generic claims, since each of these claims comprehends within its confines the organization covered in each of the species. As such, Applicants submit that they are entitled to the allowance of Claim 11 upon the allowance of Claim 1, and the allowance of Claims 22, 23 and 25 upon the allowance of Claim 12. See MPEP § 806.04(d).

With regard to the restriction requirement, non-elected method Claims 26 to 45 have been amended to contain all of the features of elected product claims. Accordingly, Applicants respectfully request re-joinder of these claims pursuant to MPEP § 821.04.

No other matters being raised, it is believed that the entire application is fully in condition for allowance, and such action is courteously solicited.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

Attorney for Applicants
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03560.002647 (35.G2647) PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	:	Examiner: S. Hu
Tohru DEN, et al.	)	
	:	Group Art Unit: 2811
Application No.: 09/666,605	)	
	:	
Filed: September 20, 2000	)	
	:	
For: STRUCTURE HAVING PORES, DEVICE USING THE SAME, AND MANUFACTURING METHODS THEREFOR	)	
	:	January 26, 2004

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56 and in accordance with the practice under 37 C.F.R. §§ 1.97 and 1.98, the Examiner's attention is directed to the document listed on the enclosed Form PTO-1449. A copy of the listed document is not enclosed, since the Patent Office has waived the requirement under 37 C.F.R. § 1.98(a)(2)(i) for submitting a copy of each cited U.S. patent for applications filed after June 30, 2003.

FORMAL MATTERS

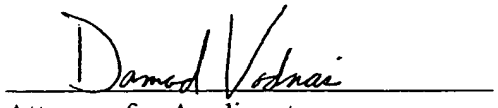
We also enclose a check for the required fee of $180.00 to cover the Information Disclosure Statement under 37 C.F.R. § 1.97(c)(2). The Commissioner is hereby authorized to charge any fee which may be required in connection with this paper to Deposit Account No. 06-1205. A duplicate of this paper is enclosed for that purpose.

CONCLUSION

It is respectfully requested that the above information be considered by the Examiner and that the enclosed Form PTO-1449 be returned with the next official communication indicating that such information has been considered.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

LIST OF REFERENCES CITED BY APPLICANT(S)
(Use several sheets if necessary)

Date submitted to the PTO: **January 26, 2004**

ATTY DOCKET NO.	APPLICATION NO.
03560.002647(35.G2647)	09/666,605

APPLICANT: **Tohru DEN, et al.**

FILING DATE	GROUP
September 20, 2000	2811

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		5,165,991	11/24/1992	Fukuda et al.	428	306.6	

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES/NO/ OR ABSTRACT

OTHER DOCUMENT(S) *(Including Author, Title, Date, Pertinent Pages, Etc.)*

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

)EV\vc

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EXHIBIT E

Commissioner for Patents
P.O. Box 1450
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(Monday)
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Mo. Day Yr.
035160. 002647
Atty. Docket (35.G2647)
Application No. 09/666,605

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Kindly acknowledge receipt of the accompanying:

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- [X] Check for $ 172.00 (claims fee)
- [X] Petition under 37 CFR 1.136 and Check for $ 110.00
- [ ] Notice of Appeal and Check for $ _____
- [X] Information Disclosure Statement, PTO-1449 and ZERO documents WITH CHECK FOR $180
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- [ ] Issue fee transmittal and Check for $ _____
- [X] Other (specify) Fee Transmittal

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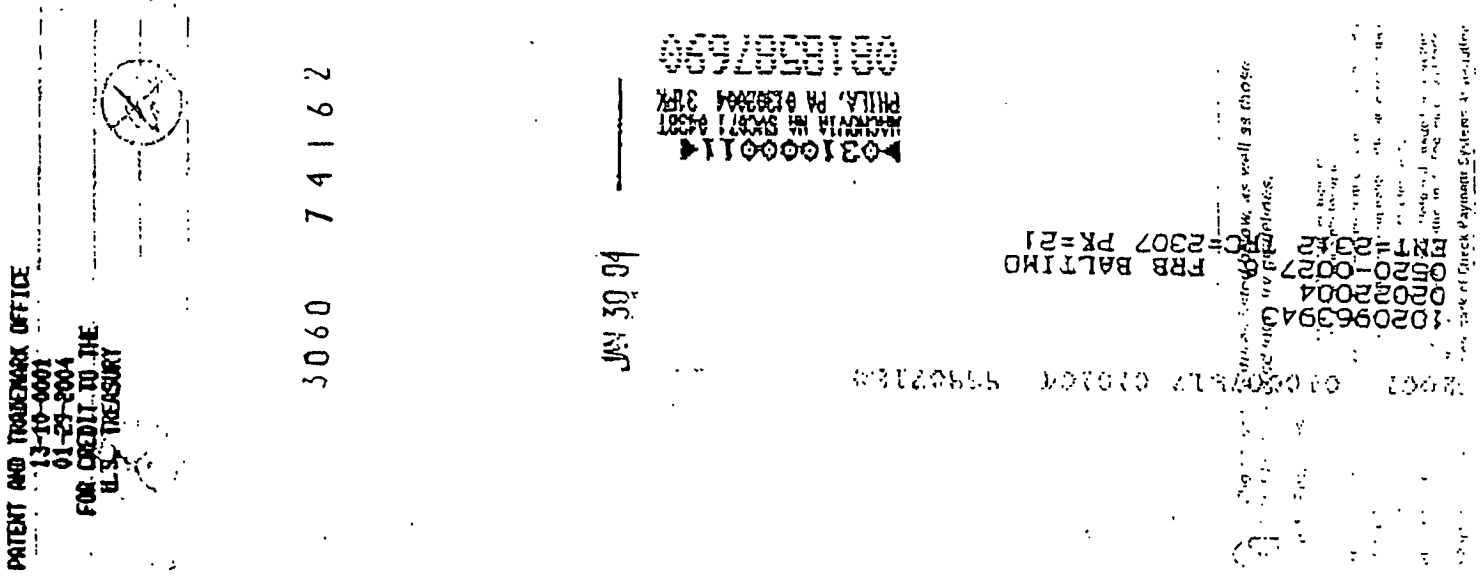

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